

**KNOWLEDGE PROBE 3: CONTEMPORARY WIRELESS TECHNOLOGY: CELL PHONES,
WIRELESS LOCAL AREA NETWORKS, AND SHORT-RANGE RADIO**
Cell Phone Technologies

Learning Objectives

1. Identify the organizations that set standards for cell phone.
 2. Describe differences between cellular phone systems.
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1. Which generation analog system was analog?
 - a. 1G
 - b. 2G
 - c. 2.5G
 - d. 3G
 2. Which generation cell phone system is digital?
 - a. 2G
 - b. 2.5G
 - c. 3G
 - d. All of the above
 3. Which of the following is NOT a feature of the AMPS system?
 - a. Frequency division duplexing
 - b. Frequency modulation
 - c. TDMA
 - d. 800 – 900 MHz band
 4. What standard is associated with the first US digital system?
 - a. IS-41
 - b. IS-95
 - c. IS-136
 - d. IS-213
 5. IS-95 standard uses
 - a. CDMA
 - b. FDMA
 - c. SDMA
 - d. TDMA
 6. What is the standard bandwidth of a US AMPS FDMA and IS-136 TDMA signal?
 - a. 30 kHz
 - b. 50 kHz
 - c. 200 kHz
 - d. 1.25 MHz



7. The bandwidth of a GSM signal is
 - a. 30 kHz
 - b. 50 kHz
 - c. 200 kHz
 - d. 1.25 MHz

8. GSM uses
 - a. CDMA
 - b. FDMA
 - c. SDMA
 - d. TDMA

9. How many calls can be transmitted concurrently in a GSM band?
 - a. 1
 - b. 3
 - c. 4
 - d. 8

10. What is the packet data system used with GSM phones?
 - a. CDMA2000
 - b. GPRS
 - c. TDMA
 - d. 3G

11. The maximum data rate of an EDGE transmission is
 - a. 50 kbps
 - b. 270 kbps
 - c. 384 kbps
 - d. 1.288 Mbps

12. The typical bandwidth of a CDMA signal is
 - a. 30 kHz
 - b. 50 kHz
 - c. 200 kHz
 - d. 1.25 MHz

13. CDMA2000 1xRTT EV-DO can transmit data at a maximum rate of
 - a. 270 kbps
 - b. 307 kbps
 - c. 384 kbps
 - d. 1.288 Mbps



14. What is the bandwidth of a W-CDMA signal?
 - a. 200 kHz
 - b. 1.25 MHz
 - c. 3.75 MHz
 - d. 5 MHz

15. Forthcoming 3G systems promise a data transmission rate up to
 - a. 1.288 Mbps
 - b. 1.75 Mbps
 - c. 2 Mbps
 - d. 5 Mbps

16. Which of the following can a cell phone with packet data capability do?
 - a. Email
 - b. Internet access
 - c. Short messaging
 - d. All of the above

17. Which is the predominant technology of the cell phone carriers Verizon and Sprint?
 - a. AMPS
 - b. CDMA
 - c. GSM
 - d. TDMA

18. Which is the predominant technology of the cell phone carriers Cingular and T-Mobile?
 - a. AMPS
 - b. CDMA
 - c. GSM
 - d. TDMA

19. What technology will 3G phones use?
 - a. AMPS
 - b. GSM
 - c. TDMA
 - d. WCDMA